

# Annual Report

OF THE

## Public Health

OF THE

## NEWTON ABBOT

(RURAL) and

*Newton Abbot & Dawlish*

(URBAN)

## Sanitary Districts.

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**For 1897.**

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BY

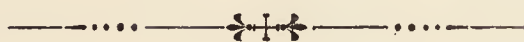
**W. HARVEY, F.R.C.S.,**

MEDICAL OFFICER OF HEALTH.

PLACES. 1897.	Birth-rate	Annual Death-rate per 1,000 of population.									Deaths under one year to every 1000 births
		Total Death-rate	From seven Zymotics	Small-pox	Measles	Whooping Cough	Scarlatina	Diphtheria	Continued Fevers	Diarrhoea	
England and Wales .....	29.7	17.4	2.15	.001	.40	.35	.14	.24	.16	.86	156
Newton, rural .....	25.1	14.6	.44	...	...	.04	..	.04	.08	.28	91
Newton, urban .....	24.8	*10.16	.51	...	...	.1	..	...	...	.41	120
Dawlish .....	*15.7	*14.77	.45	...	.23	...	...	...	...	.23	116

\* Lowest records ; for the first time no fatality from Scarlatina in the combined districts.

# *Annual Report, 1897.*



## NEWTON ABBOT (RURAL.)

The number of deaths registered in this district during 1897 was 364, of which 189 were in males, and 175 in females, giving an annual rate of 14·6 per 1,000 of population, which although much below the average is a considerable increase on the rate of 12·3 in the previous year ; that, however, was the lowest on record, and not likely to be soon surpassed. High temperatures prevailed throughout the year, but the rainfall was greater than in 1896, being about 35½ inches on the coast.

Under the age of one year there were 57 deaths ; between 1 and 5 years, 24 ; between 5 and 15 years, 7 ; between 15 and 25 years, 11 ; between 25 and 35 years, 19 ; between 35 and 45 years, 20 ; between 45 and 55 years, 33 ; between 55 and 65 years, 45 ; and over the latter 148. It is true the infantile mortality was greater than in 1896, but the great difference between the two years is in the senile column (see table 2) : obviously the marvellously dry and warm spring of 1896 spared many old persons, and added to the possibilities of fatality amongst these in the year under observation

The infantile death-rate, the deaths under one year to every 1,000 births, was 91—a fairly satisfactory figure, but in the almost complete absence of measles and whooping cough less so than it might have been.

The deaths in the four quarters were consecutively 112,

86, 74 and 92, all being in excess of the corresponding one in 1896.

The births of 329 boys and 295 girls equal a rate of 25·1 per 1,000. This is the largest number since the parish of Cockington was detached from the district, and the highest rate since 1892. The natural increase of population, as it is

Death-rate, &c., in each parish.												
PARISHES.	Ordinary Zymotics.					Influenza	Consumption	Other Tuber- cular Diseases	Apoplexy	Cancer	Infantile Inanition	Total Death-rate per 1000.
	Whooping Cough	Scarlatina	Measles	Diphtheria	Diarrhoea							
Ashburton .....	...	...	...	1	1	1	6	...	3	7	3	21·7
Abbotskerswell ...	...	...	...	...	...	...	1	...	1	...	...	11·6
Bickington.....	...	...	...	...	...	...	...	...	...	...	...	17·3
Bishopsteignton ...	...	...	...	...	...	...	1	...	1	1	1	15·7
Bovey Tracey .....	...	...	...	...	3	...	3	...	5	4	...	11·5
Buckland .....	...	...	...	...	...	...	...	...	...	...	...	13·7
Broadhempstone ...	...	...	...	...	1	...	1	1	...	2	...	24·8
Coffinswell.....	...	...	...	...	...	...	...	...	...	...	...	5·0
Coombe, Haecombe ...	...	...	...	...	...	1	...	...	...	...	...	7·3
Chudleigh .....	...	...	...	...	...	1	1	...	2	4	...	18·1
Denbury, Torbrian ...	...	...	...	...	...	...	3	...	2	...	...	25·3
Dawlish .....	...	...	...	...	...	...	3	...	1	1	...	18·2
The Ogwells .....	...	...	...	...	...	...	...	...	...	1	...	12·9
Highweek .....	1	...	...	...	2	3	...	...	1	1	1	13·2
Hennock.....	...	...	...	...	...	...	1	1	1	2	...	13·1
Ilsington .....	...	...	...	...	...	...	...	...	...	3	...	8·0
Ipplepen .....	...	...	...	...	...	...	...	...	1	...	...	9·7
Ideford .....	...	...	...	...	...	...	...	...	...	...	...	3·5
Kingskerswell .....	...	...	...	...	1	...	1	...	1	...	...	6·8
Kingsteignton .....	...	...	...	...	...	2	1	...	1	...	...	14·8
Lustleigh .....	...	...	...	...	...	...	...	...	...	...	...	2·4
Moreton .....	...	...	...	...	...	1	4	...	1	7	1	14·3
Manaton .....	...	...	...	...	...	...	1	...	...	...	1	15·3
North Bovey.....	...	...	...	...	...	...	1	...	...	...	...	19·2
Stoke .....	...	...	...	...	...	...	...	...	1	...	...	15·7
Teigngrace .....	...	...	...	...	...	1	1	...	...	...	...	29·4
Trusham .....	...	...	...	...	...	...	...	...	...	...	...	5·9
Widdicombe .....	...	...	...	...	...	...	...	...	1	1	...	8·1
Woodland .....	...	...	...	...	...	...	...	...	...	1	...	10·9
	1	...	...	1	7	2	9	29	2	23	35	...

Violent deaths are excluded in the above rates.



Table of Deaths occurring during the Year 1897, in the several registration Districts of the Newton Abbot Rural Council, classified according to Diseases and Ages, and shewing the Death-rate, Birth-rate, and Population of each Locality.

SUB-REGISTRATION DISTRICTS.	Population.	BIRTHS.		DEATHS.						MORTALITY FROM SUBJOINED CAUSES.														
		Registered.	Birth-rate per 1,000 annually.	At all Ages.	Death-rate per 1,000 annually.	Under 1 year.	1 and under 5.	60 and upwards.	Under 1 Year to every 1000 births	Small-pox.	Measles.	Scarlatina.	Diphtheria.	Whooping Cough.	Continued Fevers.			Diarrhœa.	Phthisis.	Bronchitis, Pleurisy, Pneumonia.	Heart Diseases.	Injuries.	Other Diseases.	
Newton (Rural)	7,309	182	24.9	105	14.4	19	8	41	104	...	...	...	...	1	...	1	...	...	2	6	20	11	6	58
Chudleigh	6,733	180	26.7	98	14.6	16	3	47	89	...	...	...	...	...	...	...	...	...	3	6	18	13	4	54
Ashburton	5,516	124	22.5	94	17.0	12	10	50	97	...	...	...	1	...	...	...	...	...	2	7	20	11	1	52
Moretonhampstead	2,692	68	25.3	40	14.8	6	3	20	88	...	...	...	...	...	...	...	...	...	...	6	5	6	...	23
Sea-border	2,600	70	26.9	27	10.4	4	...	16	56	...	...	...	...	...	...	1	...	...	...	4	2	2	...	18
TOTALS, 1897.....	24,850	624	25.1	364	14.6	57	24	174	91	...	...	...	1	1	...	2	...	...	7	29	65	43	11	205
" 1896.....	24,792	608	24.6	305	12.3	50	26	132	82	...	1	3	2	4	...	1	...	1	1	21	39	36	18	179
" 1895.....	24,737	591	23.9	353	14.3	69	27	161	117	...	14	1	...	4	...	3	...	1	1	16	70	30	15	198
" 1894.....	24,681	563	22.8	378	15.3	64	27	159	114	...	...	...	1	11	...	5	...	...	3	28	75	44	17	194
" 1893.....	26,626	652	24.4	391	14.7	70	32	177	107	...	...	2	3	7	...	2	...	...	4	37	61	40	13	222
" 1892.....	26,440	678	25.6	418	15.8	57	29	207	84	...	1	...	...	2	...	..	...	...	6	19	88	36	21	245

called, the excess of births over deaths, is therefore 230, but properly speaking this should be reduced by the 18 deaths which occurred in the workhouse amongst people from the rural parishes, and by a small further number probably in other institutions of which I have no precise information.

All the chief causes of death are enumerated in the tables on pages 2 and 3. A reference to them will shew an increased fatality from consumption or phthisis (fully balanced, however, by a decrease in the column "others tubercular,") cancer and diarrhœa. The latter will be referred under the head of zymotic diseases. Deaths from violence are considerably below the average. To those of the brain and nervous system 43 are ascribed, 4 being convulsions in children, and 22 apoplexy; diseases of the heart, 40; of the digestive system, 33; and of the urino-genital, 12. Twelve were due to premature birth, and 18 to old age, the former an exceptionally high number, the latter correspondingly low; 5 to the accidents of child-birth, 2 to skin affections, 8 to indefinite causes, all but one being infantile debility, and a few to rarer forms of disease.

It will be observed that Ashburton has the highest death-rate amongst the sub-districts, but on the other hand it is the only one in which the mortality over 65 years exceeds half the total, and its number under one year is the lowest proportion shewn; this locality has also the lowest birth-rate. The sea-border parishes are in the exactly opposite order, having the best death-rate and the highest birth-rate; in 1896, however, it was precisely the reverse in both these respects.

**ZYMOTIC DISEASES.** From the seven ordinary maladies of this group, 11 deaths resulted, one each from diphtheria and whooping cough, 2 from typhoid fever, and 7 from diarrhœa. These give a rate of .44 per 1,000, a fraction less than in the preceding year. The table of parishes on page 2 indicates the exact locality of each fatal case. Besides these there were the following fatalities from diseases of approximating character or from preventable causes --influenza, 9; puerperal fever, 2; German measles, 1; and alcoholism, 1. In 1896, only 3 deaths were attributed to influenza, and the increase of this is therefore pronounced. The notifications were typhoid, 27; scarlatina, 12; erysipelas, 26; diphtheria, 15; puerperal fever, 2. The greatest proportion of these was in Ashburton and next in Highweek.



**WHOOPIING COUGH AND MEASLES.** These need little comment. Although one death was caused by the former, not much of it came under notice ; in the summer and autumn quarters, however, there were a good many cases in Ipplepen and Broadhempstone. Even less measles was noted, only a few cases in Ipplepen and Widdicombe.

**SCARLATINA.** Only a dozen cases were notified, but this is no measure of the number that occurred ; indeed there is reason to believe that some villages underwent epidemics of it unconsciously, without its receiving medical or official recognition. Although seen in moderately severe form now and then, yet the progressive mellowing of type seems to be continued year after year, the damage it inflicts being relatively to the last decade almost as nothing. Cofton and Moreton had the greatest number of cases, but even in these places it was restricted to one or two families.

**ERYSIPELAS.** These were all of the simplest form, affecting either the face or the leg and foot ; practically they are always single cases and do not spread ; in only one instance has two cases in the same household come under my notice, and these persons occupied the same bed. A slight case of puerperal fever in a house with a choked drain underneath was followed by another resident undergoing an attack of erysipelas, but I do not attach any definite significance to this coincidence. The number of these cases is very considerable and involve an amount of labour and attention they scarcely deserve ; none were fatal.

**DIPHTHERIA.** With the exception of a slight case in Highweek and a rather severe one in Coffinswell, all the notifications of this were in Ashburton or associated with its schools. In this place it has lingered for a year or two, a case cropping up now and then at intervals of weeks or even months, forming a good illustration of the persistency of this affection. The children in the adjacent and purely rural parish of Woodland attended the Ashburton schools, and in October I received a notification from there ; on visiting the hamlets I discovered a number of slight throat cases which were probably of diphtheritic origin. A sentence in my report for 1896 may here be repeated :—"The only fatal case was the solitary one not treated with antitoxin," - a very significant coincidence ; the instance referred to was an infant, and there was not time to procure and apply this antidote. In consequence of the foregoing, I have advised that certain closets in the Ashburton board school be removed elsewhere, as they now sometimes necessitate the closing of the windows of an adjacent room in which the children are at work. At Brookfield, in the parish of Bovey Tracey, there were a good many autumnal sore throats, which in view of the experience of the preceding year, were in high degree of a suspicious character, giving probably another illustration of the tenacity with which the diphtheritic poison adheres to any locality where it obtains a foothold.

**TYPHOID FEVER AND DIARRHŒAL DISEASE.** On this occasion I have grouped these together for reasons that will subsequently be manifest. No less than 27 cases of the former were notified. It is true that about half of these are included in the Mill lane outbreak which had a special cause, but on the other hand notifications were received from Chudleigh, Ashburton, Moreton, Highweek, Coombe, and other places that have been free for years. A case at Bovey was not of local origin. In Kingsteignton three occurred. Moreover, there were seven deaths referred to diarrhœa, a number not equalled since 1886. But what in this association is of higher import still, there were in the

## Record of Water Analysis.

No	Source.	Date.	Grains per Gall.		Parts per 1,000,000			Oxygen taken.	REMARKS.
			Total Solids	Chlorine.	Free Ammonia.	Organic Ammonia.	Nitrogen from Acids.		
1	Hollowcombe Spring, Bishopsteignton.	Mar. 8	11.0	1.9	.00	.06	.08		.007 oxygen per gal. absorbed. An excellent water, but contains a little vegetable impurity.
2	Western House, Highweek.	Aug. 18	25.0	5.7	.01	.05	...		good
3	Factory Row, Bradley Lane.	Sept. 2	66.0	4.7	.02	.13	...		inferior quality
4	Well at Bar on, Bickington	Sept. 3	moderate	1.7	.02	.16	...		slightly milky; evidence of old, not recent pollution; not safe to drink.
5	Mill Lane spring, Highweek.	Oct. 5	32.0	2.1	.00	.20	...		absorbs oxygen freely; muddy after rain; contained some fibres of cloth. Unsafe.
6	Proposed Lustleigh supply.	Nov. 5	11.0	.9	.02	.08	...		absorbs little oxygen; has some vegetable impurities; good.
7	Dawlish supply drawn in town.	Aug. 16	...	1.3	.00	.11	...		oxygen rather freely absorbed; water gave rise to complaint, and is somewhat astray
8	Ditto, drawn above the intake	Oct. 12	...	1.3	.01	.04	...		absorption of oxygen rapid; contains sand & small vegetable particles.
9	Ditto, drawn in town after renewal of filter bed.	Oct. 26	...	1.2	.01	.05	...		oxygen absorbed rather rapidly, due probably to peaty material. There had been no rain since drawing of No. 8



third quarter no less than seven fatalities, mostly in infants, due to gastro-enteritis (inflammation of the stomach and bowels), a somewhat allied malady, and yet rarely seen in our mortuary returns; no sub-registration district was without a death from this cause and the same applies to the conjoined urban authorities comprised in this report. It would thus appear sufficiently clear that in view of the serious and wide-spread typhoid epidemics that have broken out in England during 1897, and of our own experience here that some general climatic or other cause has been at work favoring the development of the group of diseases included in the phrase at the head of this paragraph.

The outbreak in Mill lane, in the urban part of Highweek, just alluded to, is worthy of brief detail, being the most serious incident of the kind in my experience of the district. In this locality was a row of nine ancient cottages, situated in a narrow, dark and unwholesome road, of which all but two were built again, a scarped bank, causing their interiors to be damp. Most of these houses were supplied with Torquay water, but the infected ones used that about to be described. This consisted of a superficial dipping spring or ooze of water from the high ground of the gardens at the back received into a shallow pit, which was tightly enclosed with masonry and fitted with a door. Admittedly the water could not be drunk at times, as it became muddy during rain. The worst feature in the construction of this "well" was that its overflow, straight from its interior and at the water's edge, joined directly with the sewer, not having any air disconnection whatever, and as the overflow was *nil* during dry weather the probability of its being polluted by volatile or liquid contents from the sewer was great.\* At all events it was intermittently fouled and became a potent cause of disease. After preliminary diarrhoeas, the first case of typhoid here was notified early in October, and the course of the outbreak is rather noteworthy. In the first place it was restricted to those residents who consumed the water, appearing amongst children of that age when they run freely about and thus acquire a wholesome thirst, or amongst hard-working men who drink water liberally at times; then spread by infection to other adults; babies to whom cold water is not given escaping entirely. Altogether there were more than a dozen cases, not including an associated one in Ogwell parish, and of these no less than 10 were in that numerous family in whose courtyard the spring was situated. The disease was very severe but differed somewhat from the ordinary type, the preliminary malaise being brief, the convalescence rather rapid, the infective power great, and giving the general impression of the morbid process being higher in the digestive tract than usually obtains. None were fatal although some narrowly escaped; the analysis of the water is shewn in the table.

The two fatal cases of typhoid recorded were both in the southern district, in the adjoining parishes of Haccombe and Kingskerswell; both were in elderly persons, that in the latter village being over 70 years of age. They call for no special notice, but it may be mentioned that the Haccombe case occurred in a superior farm-house situated in a park, and recently put into a state of modern sanitary repair. The others notified were, speaking generally, of mild type, involving little danger to life. Information reached me also of a case being removed from Lustleigh to the infirmary at Teignmouth.

\* Subsequent exploration has shewn drainage so defective in its immediate vicinity that the soil was polluted, and the cases were probably of the nature of fœcal poisoning of the direct type.

**SANITARY PROCEDURE.** Under this heading a large number of points present themselves for observation ; indeed I am always surprised in looking over my notes for the purposes of compiling an annual report to find what an amount of detailed improvement has been carried out. I will endeavour to enumerate the chief of these effected in 1897.

In the first place then as regards water supplies. The long and bitterly-fought question at Kingsteignton has at length been brought to a successful issue, and the inhabitants are now in possession of an excellent, though somewhat hard water from the limestone. It is already rendered available to about two-fifths of the houses, but unhappily not in a single instance have the numerous and dirty hand-flushed closets, frequently common to two or more dwellings, been fitted with a flush. This, no doubt, will come in due course, but I have in the meantime urged owners to carry it out fully and promptly. The sewers of this large village are unnecessarily capacious, frequent chokages are revealed, and the more water that enters them the better for the community. All should contribute their *quota* to this desirable end. The owners of the Pottery seem disposed to meet the Council in the matter of turning the new water into their main, hitherto filled as a mere makeshift from a branch of Fairwater. There are twenty-five houses at these works, a number not unlikely to be increased,

The supply at Bishopsteignton is about to be enlarged by the inclusion of the Hollowcombe spring which has been generously given by the landowner, the source at Dunney having become unequal to the growing demand, and as the former is the larger of the two springs the question of quantity ought now to be settled eternally.

Some obstacle in the negotiations for water at Lustleigh and Brookfield has arisen, and led to a movement for supplying the former place independently—an easier task it appears than dealing with both. In the sanitary sense these places are entirely one, having a common sewerage system, and separate action as suggested is not therefore an arrangement to be approved.

The village of Fast Ogwell has, in the course of the year, been endowed with what promises to be a good supply of water. This is solely owing to the munificence of the owner.



The prospect of water at Kingskerswell is still in *statu quo*, but the repeated discussions on the subject have, I think, begun to assume a more hopeful turn lately ; at all events no opposition is now manifest, and the delay is due only to the physical difficulties involved.

Several wells have been closed and new ones constructed at Alford, Morley, Kingskerswell, Ipplepen, Highweek, and other places. The public spring at Widdicombe village became at one time slightly impurified, and measures have been taken to prevent it in future.

As regards sewerage, the chief work has been the continuous renewal by degrees of that of Moreton. This is being carried out with commendable prudence, and only recently that of Pound Street has been sanctioned : this locality needs it badly. Many important improvements in sewerage and closet accommodation have, however, been effected in villages and groups of houses, notably in Wen and Mill Lanes, and Netley Row, Highweek ; also in the towns of Chudleigh and Ashburton ; in the latter this work has been facilitated by the cases of diphtheria that at intervals have come under observation.

A committee of investigation, with the Chairman of the Council, assembled in July, at Ipplepen, to enquire into the matter of the sewerage of the village and the pollution of the brook. Opinion was unanimous that the nuisance was a profound one, and although nothing has yet come of it, yet the plans of a remedial system have been prepared and laid before the Parish Council and Local Government Board. The latter has ordered an inquiry.

The town of Ashburton having applied for an Urban District Council, an official inquiry was held there in August. No opposition was forthcoming and it is stated that at Ladyday the request will be complied with. Some of the inhabitants were of opinion that the Rural Council did not render the locality its due share of attention. This cannot be admitted as regards sanitary matters, for it is within my knowledge that it received, not only from the Council but from its Sanitary Committee, more care than any other town in the union. Still, independence is liked, and will perhaps lead to development : the only objection I see to it is that small communities can scarcely pay salaries enough to secure trained officers, and rather demur at the cost of calling in consultative opinion when required. Certain it is that vast improvements, more



than the inhabitants have any notion of, have been made in the town whilst under the system about to end. However, much still remains to be done, especially in the direction of drains and sewers, and the new constituted Council will have plenty of matter to engage its attention for a long time to come. In the course of the year Mr. Segar and myself visited the working class streets and houses of the town with reference to a repeated demand for action under the Housing Act, the result of which was that I reported to the Council that the time was not ripe, that we met nothing but apathy, but at the same time were of opinion that the condition of house property there was very inferior, and better structures were desirable.

A few remarks on the position of Kingskerswell and its sanitary deficiencies may not be here inappropriate, as this is the largest place now remaining in the district without a water supply, and is the next therefore to be radically dealt with. Moreover, next to Kingsteignton, it has undergone more typhoid fever than any other community, and only its steep gradients which enable rain to flush the drains with effect have prevented things being worse. With an imperfect sewerage system, water generally from doubtful sources, an undue proportion of slaughter houses, and the usual nuisances in addition, it is not a place that even with its natural attractiveness should aspire to the reception of visitors. I have known serious illness acquired by persons going there to live, and when intending occupants of villas have written to me asking my advice about residing there, I have not been able to give the favourable reply required. Hence empty residences or reduced rentals and arrested prosperity. About five years ago, in consequence of a small epidemic of typhoid fever in Torquay being traced to milk from the considerable village of Whilborough, in the parish under note, the municipality of that town forbade the sale of its dairy produce within their jurisdiction until certain conditions were complied with ; these, however, have not been done unto this day, although I believe they are about to be undertaken—a circumstance in itself shewing a recent development of a more energetic spirit. Nothing substantial can really be effected in Kingskerswell without a supply of water ; this is the first step to any claim for sanitary honor, and the rest follow quite as a matter of course. Personally I am in favor of the Coffinswell spring being utilized, or of lifting the water from the excellent spring near Dacca Bridge ; at every turn, however, difficulties are encountered but, during the last year or so, an earnestness of

purpose in relation to this matter is manifesting itself, which will I hope lead to all these being surmounted.

House to house inspections have been made in Moreton, Ilington, Hennock, Pondsworthy, and a partial one in Ashburton, Bovey and Kingsteignton. A good deal of house to house disinfection has likewise been carried out, especially in High-week and Lustleigh.

The subject of the joint isolation hospital will be alluded to in the report for Newton Abbot urban.

Mr. S. Segar and his newly-appointed assistant, Mr. Rogers, append the following :—

In Moreton all Forder Street has been re-sewered, house connections made good, and a vent shaft fixed at the upper end. Tenders are also invited for carrying out a similar work in Pound and part of Court Streets. Tenders are asked for the drainage of Whilborough, and plans for that of Ipplepen have been sent to the Local Government Board for approval. Kingsteignton water works have been completed and the mains at Ideford cleaned. Plans for an increase of the water supply of Bishops-teignton and for Lustleigh (not including Brookfield) have been submitted to the Local Government Board. Complaints received, 158—official notices served 61, besides many written and verbal ones—new water closets (excluding those of new houses), 30—pigsties abolished, 10—choked drains cleared, 25, and in all cases glazed yard-gullies substituted for metal traps—wells closed, 3—new wells sunk, 3. All slaughter houses inspected and whitewashed at least twice yearly. Dairies inspected regularly.



## NEWTON ABBOT (Urban.)



In compiling the following statistics it is not necessary to recapitulate the remarks made last year concerning the rapid growth of the town since the census of 1891. Suffice it to say that over 300 houses have been constructed since that date, and the population in the following returns is calculated at 9,750. The fact of the birth-rate in the census year, when the number of inhabitants was accurately known, being considerably less than the average of succeeding years, points strongly to an under estimate rather than otherwise. See table.

The number of deaths registered in this district during 1897 was 99, of which 53 were in males, and 46 in females. giving an annual rate of 10·16 per 1,000 of population. This is by far the lowest rate ever attained, being no less than 1·62 below the best rate hitherto recorded, and fully 5·0 per 1,000 below the average even of recent years. This, however, is not all, as it follows the most satisfactory figure shewn for many years (see 1896 in the table), and a rebound might have been expected. How a working class town, situated partly on a delta, all its old and denser parts being on cold and wet valley soil, scarcely raised above sea level, and abounding with close courts in its ancient streets could, in so considerable a population, evolve such a death-rate even for a single year, is difficult to understand. In attempting an explanation it may be alleged that the town is extending into satisfactorily situated positions, that the workers are well off in a commercial sense, being well housed and well fed, that the new houses are occupied chiefly by young married people who naturally have a low mortality, and lastly, that no destructive epidemic, whooping cough or measles, has occurred amongst children.

In the four quarters of the year the deaths serially were 27, 24, 23 and 25. Other chief causes of fatality, besides those



given in the table, were constitutional diseases (excluding tubercle) 9 deaths, 5 being from cancer ; diseases of the nervous system 8, one half being from apoplexy ; diseases of the heart, 14 ; of the lungs, 13 ; of the digestive organs, 12 ; of the urino-genital, 3. Four were assigned to violence, 5 to premature birth, 3 only to old age, and 7 to that indefinite yet frequent cause, infantile debility. It is noteworthy that influenza is not mentioned in the returns.

Under the age of one year there were 29 deaths—between 1 and 5 years, 9 ; between 5 and 15 years, one only ; between 15 and 25 years, 3 ; between 25 and 35 years, 5 ; between 35 and 45 years, 9 ; between 45 and 55 years, 7 ; between 55 and 65 years, 9 ; and over the latter age, 27. The relatively high number under one year is an unpleasant feature.

This is a convenient place to refer to the infantile mortality of the town, which is usually a marked incident in its returns. It will be noted that in the above paragraph the deaths under one year were in excess of those over 65 years, and although this, I believe, is the first occasion of which that can be said, yet a high figure has usually obtained. The causes of the 29 deaths among infants were as follows:—inanition 7, diarrhœa 3, premature birth 5, malformation 1, convulsions 1, teething and digestive tract 7, tubercle 1, diseases of the lungs 2, and two to other causes. Most, perhaps all of these, may be assumed to imply inherited debility, or preventable causes after birth, and indicate a large field for sanitary operations in the future. Besides, this is not all, for there was a considerable mortality at an age scarcely exceeding one year, a mortality essentially the same in character, *e.g.*, there were more deaths from tubercle and teething during the second year than mentioned above.

The infantile rate, the deaths under one year to every 1,000 births, was 120 against 102 in the preceding year.

The births numbered 242, males 131 and females 111, actually three less than in 1896, giving the rate of 24·82. The natural increase of population, subjected to deduction for deaths in the Workhouse, and probably a few in other public institutions, was 143.

In the Workhouse, situated in Newton Abbot, there were 47 deaths, 31 in males and 16 in females. Their local distribution is as follows:—Torquay 15, Newton 8, Teignmouth 3, St. Marychurch 3, Dawlish 0, and the rural parishes 18.

**ZYMOTIC DISEASES.** To the ordinary maladies of this class, there were attributed 5 deaths, comprising 4 diarrhoea and 1 whooping cough, equal to an annual rate of '51 per 1,000. The notifications were 9 typhoid fever, 19 scarlatina, and 6 erysipelas, a total of 34. Besides these there

	1897	1896	1895	1894	1893	1892	1891	1890	
Smallpox ... ..	...	...	...	...	...	...	...	...	
Measles ... ..	...	...	5	...	...	1	13	1	
Scarlatina ... ..	...	...	2	...	1	1	...	...	
Whooping Cough ..	...	1	1	3	16	2	1	...	13
Diphtheria ... ..	...	...	1	2	3	...	4	1	
Continued Fevers ...	...	...	1	2	...	1	1	...	1
Diarrhœa ... ..	...	...	4	3	...	5	2	...	...
Deaths from 7 chief Zymotics ... ..	5	5	13	18	12	6	17	16	
Phthisis ... ..	9	13	11	12	13	7	4	8	
Others Tubercular ...	3	3	6	4	3	1	3	5	
Bronchitis, Pneumonia, &c. ...	13	15	27	27	26	23	25	24	
Heart Disease... ..	14	17	12	9	10	14	26	16	
Violence ... ..	4	7	5	1	4	3	4	2	
Other Diseases ... ..	51	77	87	76	71	79	65	72	
TOTAL FOR EACH YEAR. ...	99	137	161	147	139	133	144	143	
General Death-rate per 1,000 ..	10·2	14·3	17·5	16·1	15·9	15·3	16·7	16·2	
Zymotic Death-rate ... ..	·5	·5	1·4	2·0	1·4	·7	2·0	1·8	
Birth-rate ... ..	24·8	25·5	26·8	27·2	26·9	26·0	25·2	24·3	
Deaths under 1 yr to 1000 births	120	102	126	157	147	116	121	136	

was a case of typhoid from Mill Lane, Highweek, and another of erysipelas in the Workhouse. The town, it will be observed, was quite free from diphtheria. With the exception of one point, none of these need any special remark beyond this, that the scarlatina is getting progressively of a milder character, and that there was no death from any notifiable disease.

#### TYPHOID FEVER AND DIARRHŒAL DISEASES.

These constitute the exception alluded to, and in order to avoid repetition I will refer those interested to the corresponding paragraph in the rural part of this report on page 7. Of the 9 cases of typhoid, two in Fairfield Terrace might be eliminated, as the boy affected came home ill from a distant town, and his mother, who was laid up also in the subsequent month, no doubt contracted it from him. Hence, 7 cases, presumably of local origin, remain to be considered, not a large number by any means. Moreover, there was not a really severe attack amongst them, not one in which the danger to life was imminent, such as so frequently obtains in this disease. They were located in various parts of the town, 10 Court, East Street, being the only one where two cases occurred, and the old haunts of it in Quay Road and vicinity were entirely free. This decline in severity is a hopeful sign, indicative of an attenuation in the conditions that produce the disease. Still, there were four deaths from diarrhœa and a like number due to gastro-intestinal inflammation. This subject is mentioned at further length in the rural part of this report. Suffice it here to say that the same general cause, whatever it might have been, was obviously operating in the town as in the neighbouring parishes, and yet they have in this association few conditions in common. All but one of the eight deaths just mentioned were in very young children.

The Urban authority having appealed to the L.G. Board against an order of the County Council affixing the site of the joint isolation hospital at Forches Cross, an inquiry was held in August before Dr. Barry. The evidence of three medical men and three surveyors was decisively adverse to the spot chosen out of the three presented, one of which had been provisionally purchased. The L.G. Board did not feel itself called on to upset the order of the County Council and it was therefore duly confirmed. In so far as I know, the matter is in *statu quo*, if not entirely quiescent. The result will, I fear, defer the erection of the hospital indefinitely, although during the outbreak in Mill Lane it was badly wanted, the Workhouse being again resorted to for this purpose. At all events the town will take no active steps in the matter, seeking nothing but freedom from its association with the Rural Council, and as this cannot be considered in any sense whatever a claim injurious to any interests, it should in my view be accorded. The truth is the great god Pan governs all negotiations and all debates on the subject of isolation hospitals.

The courts of the town have given rise to much



discussion for years past. The opening up of 9 and 10 Courts, Wolborough Street, still hangs fire and only insufficient proposals are brought forward. The difficulties involved are great, and the public are naturally averse to spending large sums in buying up dilapidated properties that have been inherited from the dark ages. My opinion is that a declaration of unfitness for habitation and threat of legal closure will be necessary to cut this Gordian knot. However, elsewhere something in the direction of progress is promised, for 6 Court, Wolborough Street, and 10 Court, East Street, are to be renovated under the provisions of the Private Streets Works Act. In connection with this and the Courts especially, an interesting report, dated 1844, was in the course of the year exhumed from the urban archives. It was entitled a "Report to the General Board of Health," the result of an inquiry by Superintending Inspector Geo. F. Clark. It is very instructive reading, being a vigorous embodiment of the abominably insanitary conditions then existing. The state of the courts was such that they are described as the haunts of fever—scavenging of the domestic sort there was none, and in the courts refuse was accumulated in corners or thrown into the Lemon, if impinging on its banks—no water supply—the town leat was the town sewer—the spirit of faction was rampant and opposition to progress was raised on the part of medical men and others bearing well-known local names, men from whom better things might have been expected. The result was a death-rate of 23·5 or even more in previous years, and the births did not not much exceed the deaths. Such figures have not been heard of by the present generation or since the sanitation of the town was taken in hand. I published an extract of this excellent report for public information in the local press, entitling it "Then and now." It was indeed a revelation. A very important negotiation, having far-reaching consequences to the community, especially in the sanitary sense, has been almost concluded with the "Devon Estate." It involves the purchase of Courtenay Park, of the Marsh recreation ground, of about eleven acres at the sewage works and smaller open spaces, most of which the public at present hold on leases. The proprietors have treated the Urban Council generously in the matter of price and appended the considerate proviso that the ground shall be retained as open spaces for ever. This is a condition to be welcomed by all interested in the progress of the locality and the nation. We suffer sufficiently from evils that have been handed down to us from the past, too strenuous attempts are not wanting to impose them even now, and I

hold that we can do future generations no more thoughtful service than securing available ground in the town and vicinity, for in a century the erection of narrow streets and dense aggregations of people will be interdicted. It is impossible to err in this direction, and in this particular the purchase about to be completed will put Newton in a good position, especially as the cricket and recreation grounds are in the most populous and lowest locality serving the same end : no effort should be spared to retain these in their present state and present purposes. I have advised with the same view that the beautiful pine wood at Decoy be purchased as a site for an isolation hospital, looking on it as open ground available for a public park when the institution shall have fallen into decay, or growth of population render its removal to a distance advisable, if then the necessity for it exist at all.

Subjects referred to the Sanitary Committee are increasing in number and importance. I have had reason to remonstrate at the construction of this body. Its title is the "General Purposes and Sanitary Committee" which, in plain language, means that all irregular matters not directly concerning the financial, lighting, road, and market committees, are appended to the sanitary. In practice the result is that these odds and ends, these irregular points, invariably receive more attention than the direct work of the Committee, are always considered first, leaving the latter to be dealt with later on, and not infrequently before a weakened, emasculated assembly. All this, too, is a relic of the dark ages, when sanitation was looked on with contempt and any system of thrusting it into the background was accepted. The days, however, of its triumph are at hand and there is a public demand for an alteration of all this. I hold that sanitary work is peer to any other, and involves more complex problems, as it often implies unpleasant assaults on individuals in their capacity of tenants and owners—whereas the work of other committees is simple enough in its nature and within the grasp and discretion of the members entirely. For efficient sanitary work, the proper way is for every detail to be discussed in committee, for the best hours of the day and ample time to be given to it, and for the officers of the department to have associations with it only, not with the general council : this is the method followed in large towns, and the only method that leads to practical results. My personal experience is that before general boards, the sanitary work, relegated as usual to the ends of meetings, is met with an exhausted, not to say a diminished assembly, from whom it receives scant and perfunctory attention.



The most important subject, the poultry nuisance, yet remains to be considered. Few people have any conception of the vast number of fowls and ducks kept in court-yards and gardens. They exist in thousands, probably in tens of thousands, especially on those premises that have not back roads, and are not visited by the cleansing hands and more cleansing eyes of the public scavengers. A few days ago I counted 50 in one rather extensive yard, besides a vast flock of pigeons. Whole rows of houses have them in swarms; even in newly-built streets with courtyards of minimum size, structures for their accommodation have begun to appear, but happily the publicity that back-roads imply operates as a check. A short time ago I visited a house on the Marsh, in which the whole garden was a vast poultry run, a lake of black mud two or three inches deep, poisoning the soil, polluting the atmosphere and absorbing its oxygen, and in it were stalking about a multitude of ducks and fowls whose feet disappeared into the mass at every step. Such was the condition of the place that access to the closet at its distal end could only be obtained by a narrow causeway of planks laid for the purpose. This, no doubt, was an extreme case, but the graduations downwards are numerous. Pigs, after an obstinate resistance characteristic of the animal, have practically disappeared, but I am by no means sure that poultry are not a worse nuisance as they can be kept in places not available for the bigger animal and the pestilential area, the evaporating surface of a fowl "run" is much larger than that of a sty. Not unfrequently these birds are seen in public places; an earnest remonstrance on this point which I once made was not met with encouraging comments. As a Councillor once remarked when I was shewing him and others around—"people would not eat these fowls or their eggs either if they saw this." Yet all this goes on in a deep ravine town, which is buried in dense mist during the quiescence of night, retaining all the aromatic emanations from these for the young and helpless members of our community to live, sleep and develop their being in. The sun rises, the mists are dispersed and eureka, no evil exists. It is a lamentable state of things; no wonder that half the youth of England does not attain even to the requirements of our moderate army standard—but the subject must be discontinued; it is too vast, and the space too limited.

A demand has arisen, urged on by the judgment of Local Government Board for frequent and systematic analysis of public water supplies. The justification of this is well-founded on the numerous epidemics of typhoid fever that have occurred



of late years, culminating in 1897 in a terrible outbreak at Maidstone. Newton however is comparatively unconcerned in this direction, as it has the Torquay water and the municipality of that town is about to depopulate the watershed from which its great reservoirs at Hennock are filled. This is a bold and emphatic policy and, whatever some objectors may think of the measure, indicates that however relaxing the climate of South Devon may be, the moral fibre is sufficiently tense. It is a great work, final and logically basic as far as can be foreseen, for which posthumous applause will be rendered; future generations of Torquinians, when they see other corporations floundering in a mire of difficulties to attain the same end, will have solid reason to call this resolute action of their predecessors blessed. This however is a convenient place to refer to the subject, and Newton being somewhat dissociated from the connexion, it has no loco-personal aspect. I am of opinion that this is the beginning of the establishment of a county analytical laboratory, for many authorities in their desire to comply with this modern and authoritatively supported requirement are demurring at the anticipated and inevitable expenditure. One of the Councils I serve have already suggested that I undertake the work, and offered payment for the same. The subject is too lengthy to be entered on further, but I hope to have an opportunity of discussing it in the abstract of sanitary reports published by the County Council.

Other points present themselves for note, but must be omitted on this occasion, especially as Mr. Stevens' report which is appended will allude to these in some detail. Three premises have been dealt with under the Factories Act, at the suggestion of the Inspector who locally administers it.

Mr. L. Stevens, Surveyor and Inspector, reports the following in his department :

The gradual modernization of the sewers is being proceeded with. The public Abattoir and adjacent markets have undergone this improvement, involving 200 feet of 8-inch pipe. A complete renewal of the sewerage of the block of buildings at the corner of Wolborough and East Street, have been effected; this includes No. 1 Court, and is rather an extensive work, in connection with which five new closets were introduced. Perhaps, however, the greatest improvement is that in Salem Place, which has been provided with new sewerage and new drains, with modern w.c.'s, and the town water supply. The cleansing of the main sewer, 4,100 feet long, required much time and labour. I am sorry space does not permit me to give Mr. Stevens's report in full, but on the important subject of the Courts he writes as follows :

"The dealing with the unsanitary state of the Courts has been proceeded with. Plans, detail drawings, and estimates have been prepared of Nos. 9 and 10 Courts, Wolborough Street, with a view to the removal of certain portions of the existing premises, for the providing of the necessary light and air, for the efficient ventilation required at these Courts, and for providing the requisite water closets and water supply, as well as for the proper paving and lighting of the Courts."

"Similar work is in hand with reference to No. 6 Court, Wolborough Street, and No. 10 Court, East Street."

Thirty-five house drains have been smoke tested, and in six cases only was properly withstood. In six very serious defects were found and made good, in three slight ditto, in four the whole drainage system was relaid, and in 11 out-door w.c.'s were provided.

In addition to the above a house-to-house inspection of 180 dwellings resulted in 17 improvements of various kinds.

On several occasions a house-to-house disinfection of the Courts and more crowded parts of the town has been carried out.

In connection with general inspections of the district, 25 notices were served, 12 of which referred to foul privies, 4 to accumulation of manure, 4 to poultry nuisance, 2 to offensive state of premises, and the others to single cases of various sorts.

In No. 1 Court, Wolborough Street, three of the small court-yards behind the houses have been admirably cemented.



## DAWLISH.

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The number of deaths registered in the Urban part of this parish during the year 1897 was 65, of which 30 were in males and 35 in females, giving an annual rate of 14·77 per 1,000 of population, being the lowest in the sanitary annals of the district, against 16·29 in the preceding twelve months ; excluding the deaths of 12 visitors, the rate sinks to 12·04. Reference to the appended table shows that the decline of mortality during the last three years has continued. Moreover the rate is improved by there being no deaths in the Workhouse amongst Dawlish people. In the successive quarters the numbers were 21, 16, 16 and 12. In working out the above figures, the population is estimated at the round figure of 4,400, implying an increase of 190 since the census nearly eight years ago.

Under the age of one year there were 8 deaths ; between 1 and 5 years, 4 ; between 5 and 15 years, 1 ; between 15 and 25 years, 1 ; between 25 and 35 years, 3 ; between 35 and 45 years, 1 ; between 45 and 55 years, 9 ; between 55 and 65 years, 7 ; and over the latter age 31. The deaths over 60 were 36 in number (more than half the total) against 32 in the much larger town of Newton, which is in the same sanitary combination. Such is the difference being a working class town and a quiet sea side resort, containing no doubt many young people during the Summer and the bathing season, but at other times having a large residential population of invalids and (with its long-continued low birth-rate) an undue proportion of older persons. If deaths amongst visitors be excluded from consideration, Dawlish shews during recent years the lower rate of the two towns—see tables.



In addition to those tabulated, the chief causes of fatality were constitutional diseases, 7 deaths, of which 5 were from cancer; diseases of the nervous system, 8; of which

	1897	1896	1895	1894	1893	1892	1891	
Smallpox ... ..	...	...	...	...	...	...	...	
Measles ... ..	1	...	...	...	...	1	...	
Scarlatina ... ..	...	...	...	...	...	...	...	
Whooping Cough ... ..	...	3	...	2	...	...	...	
Diphtheria ... ..	...	...	...	...	1	1	...	
Continued Fevers ... ..	...	...	...	...	...	...	...	
Diarrhoea ... ..	1	...	...	...	...	1	...	
<i>Deaths from 7 chief } Zymotics</i>	2	3	...	2	1	3	...	
Phthisis ... ..	2	6	8	5	7	6	8	
Others Tubercular ... ..	1	4	1	6	2	...	2	
Bronchitis, Pneumonia. &c....	5	9	10	10	19	12	8	
Heart Disease ... ..	8	11	5	4	12	7	12	
Violence ... ..	2	1	5	4	5	5	2	
Other Diseases ... ..	45	37	42	37	35	40	39	
TOTAL FOR EACH YEAR	65	71	71	68	81	73	71	
General Death-rate per 1,000	14·8	16·3	16·4	15·7	18·9	17·2	16·8	
Ditto (excluding visitors) ...	12·0	15·4	14·0	14·1	17·0	13·2	14·1	
Zymotic death-rate ... ..	·4	·7	nil	·5	·2	·7	nil	
Birth Rate ... ..	15·7	22·7	19·1	18·5	26·6	24·7	23·1	
Deaths under 1 yr to 1000 births	116	141	168	162	96	94	51	

5 were from apoplexy ; of the heart, 8 ; of the digestive organs, 8 ; of the kidneys, 1. Four were attributed to indefinite causes, of which 2 were entitled infantile debility, 3 to old age, 1 to premature birth and 2 to injury. The noteworthy feature is the great fall in phthisis and tubercle, more I think to be welcomed than a fall in any other respect.

The death-rate called the infantile, that of children under one year, to every 1,000 births, was 116, a satisfactory figure with so few births to deduce it from and lower than it has been for 4 years.

The births of 38 boys and 31 girls, a total of 69, give the singularly low rate of 15·7 per 1,000, by far the least on record : this may be accepted as indicative of the nature of the population. The decline in this respect which has been manifest during late years has evidently come to stay, if not to intensify.

The natural increase of population, the excess of births over deaths, is therefore only 4, and solely the accident of this year shewing the best death-rate yet evolved has prevented the balance being on the other side : still there is to some extent an element of cause and effect in this.

**ZYMOTIC DISEASE.** Two deaths were assigned to what are commonly known as the seven ordinary diseases of this group, one being from diarrhœa and the other from measles. It is a perverse fact that the town underwent a winter epidemic of measles in 1895 without a fatality and this year a stray case has ended unfortunately. There has been no epidemic of any kind and the only notifications were 4 of erysipelas. There was, however, a young woman suffering from typhoid fever admitted into the infirmary : this came from Cofton, and I have assigned it to the Rural district. These two deaths are equal to a rate of '45 per 1,000.

There is little room for detail regarding these zymotic diseases, but the death from diarrhœa was in a child aged four months, living in Stockton Cottages, not a particularly healthy locality by the way, and was certified as "choleraic diarrhœa." Its extreme youth renders it probable that some error in diet may have been the immediate cause ; in older children such cases from the eating of fish, shell-fish especially, occasionally come under observation. There was, however, one death assigned to gastro-intestinal inflammation, so that not one of the combined sanitary districts and not one of the sub-registration districts escaped a fatality from this rather unusual

cause. Some remarks on this subject on pages 7 and 17, under the heading of typhoid fever, need not be repeated here. At all events, it is a very striking coincidence. All the cases of erysipelas were of the ordinary facial type. It is therefore on the whole no exaggeration to say that the town has been free from disease of this sort during 1897.

The question of a public abattoir has received some consideration, inasmuch as the Council directed an inquiry into the probable receipts of such an institution, and the matter is evidently undergoing a process of evolution, in this respect resembling all other new departures in representative assemblies. Some of the slaughter houses are fairly well kept, but not all, and complaints have been made of these and the allied trade, tripe boiling. In one instance swine and poultry were kept almost in the building. Fowls continue of course to exist in abundance in courtyards and are even in the quieter localities seen in the public streets. The drainage of Brook Cottage and Ilex Lodge has been renewed, besides that of two ladies' schools on the Parade, and in two courts in High Street improvements have been effected. On the 29th of July, a Local Government Board inquiry was held before Mr. Ducat regarding loans for sewerage and for a public lavatory. The former, amounting to £600 or £700, was duly sanctioned and the work is now in hand. The chief part of this is in Brunswick Place and in only one or two instances were the house connections found satisfactory. The old brick culvert there was  $2\frac{1}{2}$  by 2 feet in calibre and a 12 inch pipe has been substituted; the deposit or silt in it was not, however, great, only about four inches. An occasional complaint from residents in Piermont Place of some flooding of underground cellars or kitchens during a freshet is made. This is perhaps somewhat difficult of complete remedy, but sewer connections at such a low level might well be abolished. In Luscombe and Hatcher Streets a good deal of building is going on, and a path wide enough for a wheelbarrow, but not for a scavenger's cart, is available at the rear of the houses: however, the length is not great and this will fairly serve the purpose. The water supply gives the District Council some anxiety, but a resolution is manifest to do something radical in the way of improvement and economy: that some scheme to this end will be carried out during 1898 seems a certainty. In the course of the Autumn the water went slightly astray, due apparently to the want of renewal of the filter bed: the comparative analyses are given on a preceding page. The Council also has been somewhat aroused by recent epidemics of typhoid fever in



various parts of England, and a discussion was initiated on the subject of examining the water, which is from the uplands of Haldon, at short intervals. They have also consented to a careful house to house inspection being made and recorded, sanctioning external aid for the purpose. The isolation hospital has not recently been referred to, and has evidently been for the time lost sight of in the important subjects of water and sewerage that have engaged the attention of the Council.

Mr. J. S. Delbridge, Surveyor and Inspector, reports the following additional details in his department :

Two new man-holes with iron covers have been built into the main sewer in Marine Parade : at Portland House, Church Cottage, Commercial-road Cottage, the Brewery, and Nos. 1 and 11 High Street, at Gresham House, at No. 1 Park Street, No. 10 The Strand and the Post Office, repairs to drains, amounting sometimes to complete renewal, have been effected. To slaughter houses, bakehouses and dairies, 35 visits have been made. The contract for the new sewerage is being carried out satisfactorily.

In Brook Street, Manor Row, King and Hatcher Streets, 600 square yards of concrete foot paths and about the same length of stone kerb have been laid.



